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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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H. SHANNON TYSON, JR.
AKIN, GUMP, STRAUSS, HAUER & FELD, L.L.P.
816 CONGRESS AVENUE
SUITE 1900
AUSTIN TX 78701

EXAMINER

CHEN, W

ART UNIT PAPER NUMBER

2724

DATE MAILED: 04/13/00

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/879,467

Applicant
Durbin et al.

Examiner
Wenpeng Chen

Group Art Unit
2724



☒ Responsive to communication(s) filed on Jan 24, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

- ☒ Claim(s) 1-18 is/are pending in the application.
Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 1-7 and 15-18 is/are allowed.
- ☒ Claim(s) 8-14 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit:

Examiner's responses to Applicant's remark

1. Applicants' arguments filed on 1/24/2000 have been fully considered. The arguments with regard to Claims 1, 15, and their dependent claims are persuasive. Claims 1, 15, and their dependent claims are now allowed. Applicant's arguments with respect to Claim 8 and its dependent claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8-9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen et al (US patent 5,475,206) in view of Fishbine et al. (US patent 5,467,403.)

Reddersen teaches a coded image capture and decoding system comprising:

-- a remote capture unit comprising (column 5, line 35 to column 6, line 13):

- an image processing circuit that generates a plurality of coded images; (column 5, lines 40-67; column 6, lines 9-13; The term "batch" indicates generating many images.)

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- an optical system operably coupled to the image processing circuit, wherein the optical system reads a target to produce image data and transfers the image data to the image processing circuit; (column 5, lines 40-55)

- wherein at least one of the coded images comprises a plurality of values, each represents a transition point in the image; (column 16, lines 37-52; column 18, lines 1-15)

- an image buffer, coupled to the image processing circuit, that stores the plurality of coded images generated by the image processing circuit; (column 6, lines 1-13; Decoding is optional according to column 6, line 1. For the current case, the Examiner selects a case without decoding. Accordingly, the stored images are the formatted information which is coded image information.)

- a host unit comprising (column 6, lines 9-13; the remote data terminal):

- a processing circuit that decodes processing of coded images; (column 4, lines 8-13; In the remote terminal, decoding of the image information is performed. Therefore, there is a decoding circuit in the terminal.)

- a wireless link from the scanner to the remote terminal. (column 4, lines 8-13)

However, Reddersen is silent about the interface circuitry in the host unit.

Fishbine teaches an interface circuit in a host unit to assist in delivering images from a remote terminal to a host processing unit through a wireless transmission. (Column 3, lines 24-35; column 7, lines 32-45; The interface circuit 32 is the circuit.)

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It is desired to have an interface circuit to receive RF signals to facilitate data transfer. Reddersen taught RF link for data transfer. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to add interface circuits taught by Fishbine in Reddersen's system, including one in the host side, because the combination facilitates RF data transfer. In the combination, the interface circuitry assists in delivering the coded images in the Reddersen's system to the processing circuit from the remote capture unit for decoding after the batch of images are stored in the image memory of Reddersen.

4. Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen in view of Fishbine as applied to claim 8 above, and further in view of Metlitsky et al. (US patent 5,545,886 listed in paper #12.)

Reddersen in view of Fishbine teaches Claim 8 as discussed above. However, it does not teach "attempting to generate a predetermined number of coded images."

Metlitsky teaches:

-- capturing a plurality of images from a target by multiple scans; (column 11, lines 41-52; Each scan generates an image.)

-- wherein the number of the images is predetermined; (column 9, lines 26-36)

-- constructing a composite image from the captured images. (column 11, lines 41-52.)

It is desired to enhance reliability of decoding of a bar code. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply Metlitsky's teaching to

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capture and store a predetermined number of images derived from a target as a batch of images using Reddersen's remote capture unit and deliver the image to the host system taught by Reddersen in view of Fishbine to form a composite image for decoding, the combination enhances reliability of decoding of the bar codes.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen in view of Fishbine as applied to claim 8 above, and further in view of Grodevant (US patent 5,260,554 listed in paper #12.)

Reddersen in view of Fishbine teaches the parent Claim 8. However, it does not teach using proximity screening as recited in the claims.

Grodevant teaches:

-- performing proximity screening of image data from the optical system and initiates a capturing cycle. (column 4, lines 31-66)

It is desired to be able to initiate decoding of a bar code automatically. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply Grodevant's proximity screening to initiate image capturing of bar codes for decoding to achieve automatic examination of bar codes on objects taught by Reddersen in view of Fishbine, because the combination improves efficiency of bar-code reading.

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6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen in view of Fishbine as applied to claim 8 above, and further in view of Shreesha (US patent 5,798,516 listed in paper #12) and Park (US patent 5,675,424 listed in paper #4.)

Reddersen in view of Fishbine teaches the parent Claim 8. However, Reddersen in view of Fishbine does not teach using a reference and generating differences between the images as recited.

Shreesha teaches using a scanner to capture a plurality of images representative of a coded target for decoding. The images are taken at several points near a focussed condition to gain an image having an excellent image quality. (Column 4, lines 24-65)

It is desired to decode a bar code efficiently with a CCD scanner. As pointed out by Shreesha, this can be done by capturing pictures of a bar code at several points near a focussed condition to gain an image having an excellent image quality. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply Shreesha's teaching to capture a batch of images, store them, and process them in the system taught by Reddersen in view of Fishbine, because the combination improves decoding efficiency of bar codes with a CCD scanner.

Park teaches the MPEG compression method. (Abstract) The MPEG method is the most useful method for compressing a sequence of images. In the method, the first image is used as a reference and the differences between the reference and its subsequent images are derived. Both the reference and the differences are coded.

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It is further desired to transfer data in an efficient compressed form to gain transmission speed. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply Park's MPEG compression method to compress the images generated in the remote unit and transmit the compressed images to the host unit taught by Reddersen in view of Fishbine and Shreesha, because the combination provides an efficient data storage and transmission.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen in view of Fishbine, Shreesha, and Park as applied to claim 10 above, and further in view of Grodevant.

Reddersen in view of Fishbine, Shreesha, and Park teaches the parent Claim 10. However, it does not teach using a proximity detector as recited in the claims.

Grodevant teaches:

-- a proximity detector that enables operation of the capture and decoding system whenever a target is detected. (column 4, lines 31-66)

It is desired to be able to initiate decoding of a bar code automatically. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply Grodevant's proximity detector to initiate image capturing of bar codes for decoding to achieve automatic examination of bar codes on objects taught by Reddersen in view of Fishbine, Shreesha, and Park, because the combination improves efficiency of bar-code reading.

Art Unit:

Allowable Subject Matter

8. Claims 1-7 and 15-18 are allowed.

The following is a statement of reasons for the indication of allowable subject matter.

The prior art fails to teach the system of Claim 1 which specifically comprising:

-- the host system comprising a non-dedicated second processing circuit, for coupling to the image buffer in the recited capture system that *attempts decode processing of the plurality of images stored in the buffer, after the plurality of images are stored in the image buffer and after a request by the recited capture system.*

The prior art fails to teach the system of Claim 15 which specifically comprising:

-- the host unit, operatively coupled to the recited remote capture unit, comprising (1) a processing circuit and (2) code processing circuit, communicatively coupled to the processing circuit, to *selectively directing the processing circuit to decode the plurality of coded images stored in the buffer of the remote capture unit.*

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wenpeng Chen whose telephone number is (703) 306-2796.

Art Unit:

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

The art unit fax number is (703) 306-5406.

Wenpeng Chen

March 31, 2000


